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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,131	06/30/2005	Masaji Takahashi	Q88399	4527
23373	7590	11/14/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			FRISTOE JR, JOHN K	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/541,131

Applicant(s)

TAKAHASHI ET AL.

Examiner

John K. Fristoe Jr.

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-10 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 30 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/3/06, 8/31/06.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Information Disclosure Statement***

1. The information disclosure statements filed 8/3/2006 and 8/31/2006 are acknowledged by the examiner

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 4,941,447 (Mannhardt). Mannhardt discloses a solenoid valve comprising an electromagnetic coil (34), a fixed iron core (below element 34 in figure 1), a valve disk (28), a moveable iron core (26), a valve port (surrounding element 16 in figure 1), a channel (12), input port (14), an output port (20), a plurality of through holes (18), wherein the axes of the input port (14) intersects the valve stem (figure 1), wherein the input port (14) is lateral of the valve port (surrounding element 16 in figure 1), a guide boss (24), wherein the valve disc (28) is in the form of a cylinder (figure 1), one housing divided body (near element 34), other housing divided body (near element 14), an inner rib (one of element 36), an outer rib (another of element 36), wherein the cylindrical-shaped valve (28) is bored (figure 1) into a vent hole, an auxiliary channel (around the periphery of the cylindrical valve in figure 1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,941,447 (Mannhardt) in view of 6,935,612 (McCombs et al.). Mannhardt discloses a solenoid valve comprising an electromagnetic coil (34), a fixed iron core (below element 34 in figure 1), a valve disk (28), a moveable iron core (26), a valve port (surrounding element 16 in figure 1), a channel (12), input port (14), an output port (20), a plurality of through holes (18), wherein the axes of the input port (14) intersects the valve stem (figure 1), wherein the input port (14) is lateral of the valve port (surrounding element 16 in figure 1), a guide boss (24), wherein the valve disc (28) is in the form of a cylinder (figure 1), one housing divided body (near element 34), other housing divided body (near element 14), an inner rib (one of element 36), an outer rib (another of element 36), wherein the cylindrical-shaped valve (28) is bored (figure 1) into a vent hole, an auxiliary channel (around the periphery of the cylindrical valve in figure 1) but lacks a hemispherical bumper. McCombs et al. teach a solenoid actuated valve comprising an armature assembly (16) and a hemispherical bumper (38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid valve of Mannhardt by adding a hemispherical bumper as taught by McCombs et al. in order to reduce the force when the armature hits the fixed core.

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6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,941,447 (Mannhardt) in view of U.S. Pat. No. 4,621,788 (Delew et al.). Mannhardt discloses a solenoid valve comprising an electromagnetic coil (34), a fixed iron core (below element 34 in figure 1), a valve disk (28), a moveable iron core (26), a valve port (surrounding element 16 in figure 1), a channel (12), input port (14), an output port (20), a plurality of through holes (18), wherein the axes of the input port (14) intersects the valve stem (figure 1), wherein the input port (14) is lateral of the valve port (surrounding element 16 in figure 1), a guide boss (24), wherein the valve disc (28) is in the form of a cylinder (figure 1), one housing divided body (near element 34), other housing divided body (near element 14), an inner rib (one of element 36), an outer rib (another of element 36), wherein the cylindrical-shaped valve (28) is bored (figure 1) into a vent hole, an auxiliary channel (around the periphery of the cylindrical valve in figure 1) but lacks the bobbin and the body made of the same material. Delew et al. teach a solenoid actuated valve comprising a bobbin (34) made of plastic (col. 2, lines 45-46) and a body (12) made of plastic (col. 2, lines 24-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid assembly of Mannhardt by making the bobbin and body from the same material such as plastic as taught by Delew et al. in order to reduce the number of materials required to produce the valve and therefore reduce manufacturing costs.

Regarding the body members being “welded”, the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product in the prior art, the claim is unpatentable even though the prior product was made by a different process (see MPEP 2113).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,941,447 (Mannhardt) in view of U.S. Pat. No. 6,564,782 (Fujimoto et al.). Mannhardt discloses a solenoid valve comprising an electromagnetic coil (34), a fixed iron core (below element 34 in figure 1), a valve disk (28), a moveable iron core (26), a valve port (surrounding element 16 in figure 1), a channel (12), input port (14), an output port (20), a plurality of through holes (18), wherein the axes of the input port (14) intersects the valve stem (figure 1), wherein the input port (14) is lateral of the valve port (surrounding element 16 in figure 1), a guide boss (24), wherein the valve disk (28) is in the form of a cylinder (figure 1), one housing divided body (near element 34), other housing divided body (near element 14), an inner rib (one of element 36), an outer rib (another of element 36), wherein the cylindrical-shaped valve (28) is bored (figure 1) into a vent hole, wherein the valve assembly is connected to the fuel system of an engine (col. 1, lines 10-14) and an auxiliary channel (around the periphery of the cylindrical valve in figure 1) but lacks the valve being connected to a canister for absorbing fuel vapors. Fujimoto et al. teach connecting a valve (26) to a canister that collects fuel vapors (figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid valve assembly of Mannhardt by connecting the valve to canister for collecting fuel vapors as taught by Fujimoto et al. since the valve is capable of connecting to any sort of receptacle.

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 2,838,068 (Ray) discloses a diaphragm valve port with a number of outlets.

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U.S. Pat. No. 4,452,424 (Kawata) discloses a solenoid valve having a cylindrical valve member.

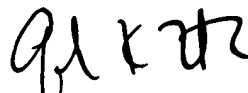
U.S. Pat. No. 6,609,698 (Parsons et al.) disclose a solenoid valve having a passage through the valve member.

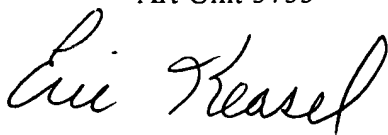
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Fristoe Jr. whose telephone number is (571) 272-4926. The examiner can normally be reached on Monday-Friday, 7: 00 a.m-4: 30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric S. Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JKF

  
John K. Fristoe Jr.  
Examiner  
Art Unit 3753

  
ERIC KEASEL  
SUPERVISORY PATENT EXAMINER  
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